Report on Job and Hiring Trends for Computer and Information Technology

by Bob Oliva, Magner Center for Careers and Internships, Brooklyn College, CUNY

1 - United States Bureau of Labor Statistics – HIRING TRENDS/JOB OUTLOOK

10 Fastest Growing Occupations for College Grads

National Employment Matrix code and title	Employment Number 2004	Employment Number 2014	Percent
Network systems and data communications analysts	231	357	54.6
Physician assistants	62	93	50
Computer software engineers, applications	460	682	48.4
Physical therapist assistants	59	85	44
Dental hygienists	158	226	43
Computer software engineers, systems software	340	486	43.0
Network and computer systems administrators	278	385	38.4
Database administrators	104	144	38.2
Physical therapists	155	211	37
Forensic science technicians	10	13	36

Occupations with the Most New Jobs: Bachelor's Degrees

Occupation	2004	2014	Change
Elementary school teachers, except special education	1,457	1,722	265
Accountants and auditors	1,176	1,440	264
Computer software engineers, applications	460	682	222
Computer systems analysts	487	640	153
Secondary school teachers, except special and vocational education	1,024	1,172	148
Computer software engineers, systems software	340	486	146
Network systems and data communications analysts	231	357	126
Network and computer systems administrators	278	385	107
Middle school teachers, except special and vocational education	628	714	86
Employment, recruitment, and placement specialists	182	237	55

SOURCE: United States Bureau of Labor Statistics

2 – Job Outlook from Various Sources

Employers plan to target business, engineering and computer-related degrees at both the bachelor's and master's degree level in 2005-06. Of the top 10 degrees in demand, Computer Science ranked 6th, Information sciences and systems 7th and Computer Engineering 9th

Source: http://www.jobweb.com/joboutlook/2006/default.htm

IT auditors, Lead application developers. Network security administrators, Business systems analysts and Data analysts/report writers are among the positions in greatest demand.
Source: http://www.careerjournal.com/salaryhiring/industries/computers/20060228-cw.html

The job outlook is brightest for those skilled in the application of technology. While jobs in categories like programming have declined since 2000, according to the Labor Department, the need for information technology experts has not. In fact, jobs that involve tailoring information technology to specific industries or companies, like software engineers who make applications and specialized systems, have grown.
Source: http://spot.colorado.edu/~lookabau/Documents/ATechieAbsolutely.pdf

3 – Anecdotal Evidence

MARKETABLE AND DESIRED SKILLS
Hiring managers want individuals who have a **deep understanding of the issues, challenges and tools specific to their business** and **who can contribute immediately to the company's success**. They seek technology professionals with **well-developed interpersonal, or soft, skills**.
Gartner Inc. predicts that by 2010, **six out of 10 IT professionals will assume business-facing roles and be required to demonstrate their understanding of the business's core processes, customer base, regulatory environment, culture and constraints.**
Already this trend is visible, and hiring managers expect candidates to have **knowledge of business fundamentals and be able to translate business requirements into deliverables.**
Source: http://www.careerjournal.com/salaryhiring/industries/computers/20060228-cw.html

"The kinds of positions being created now are **higher-level business analyst positions, or management and strategy roles that require interpersonal skills and the ability to work directly with people**"
Source:
http://seeker.dice.com/common/servlet/CommonController?op=9&rel_code=1102&pg=http://www.dice.com/content/seekert/IT_specialty/IT_specialty.html

Regarding graduates of computer science programs: They're good at what he calls out-of-the-box thinking but **weaker on fundamental business skills such as teamwork and project design**. "Many universities teach people how to program, but they **don't teach them how to work in projects,"** "They **don't teach them how to design."**
U.S. colleges and universities generally do a good job of providing technical skills and an **improving job of teaching students how to communicate and collaborate**. But **teaching students how computers help businesses be more effective** is something most computer-science programs must improve.
There's growing pressure on schools to provide computer-science majors with an **understanding of how information systems have an impact on an organization**. It's not just business but **how computers help researchers find new drugs, designers make sleeker cars, or police solve a crime**. "The one thing that's more important now than before **is having an understanding of the application's domain**,"
University computer-science programs need to educate **people who are adaptable and able to handle a wide range of business-technology challenges**. "**We want employees with broader set of skills, as opposed to a large number of people doing .Net or Java**

development," "How many people do we need to crank out C++ code if we use rewritten components?"
Source: http://www.informationweek.com/story/showArticle.jhtml?articleID=29100069

Expanding their expertise beyond computer programming is crucial to future job
"**If you have only technical knowledge, you are vulnerable,"** "But if you can **combine business or scientific knowledge with technical savvy,** there are a lot of opportunities. On campuses today, the **newest technologists have to become renaissance geeks**. They have to understand computing, but they also typically **need deep knowledge of some other field, from biology to business**, Wall Street to Hollywood. And they tend to focus less on the tools of technology than on **how technology is used in the search for scientific breakthroughs, the development of new products and services, or the way work is done.**
Source: http://spot.colorado.edu/~lookabau/Documents/ATechieAbsolutely.pdf

Computing-related jobs are no longer an isolated component of American industries; IT underpins every function of the business community—market research, product design, finance, strategic planning, environmental issues—every aspect of doing and leading. **They require people who have strong technical knowledge but who also can work and contribute in a much broader realm.."** The leaders of Microsoft, Google and other companies have made their point clear: **Give us more well-trained, well-rounded computer scientists!**
Source: http://www.cio.com/archive/120105/keynote.html?action=print